

SHARADA P.U COLLEGE, MANGALURU

STATISTICS – I PUC

MODEL PAPER

MAX. MARKS: 100

Time: 3 HOUR

Part - A

I. Answer any ten of the following:

10 X 1 = 10

1. Write down any one function of Statistics.
2. Define continuous variable.
3. Give any one difference between diagrams and graphs
4. Give an example for open-end class.
5. Define Geometric mean.
6. Calculate co-efficient of range : 30, 40, 10, 90, 45.
7. Write down any one property of regression co-efficient.
8. If $P(A) = 0.56$ find $P(A')$.
9. If $V(X) = 1$ find $V(3X)$.
10. What is interpolation?
11. Which average can be obtained from histogram
12. Define partition values.

Part - B

II. Answer any ten questions:

10 X 2 = 20

11. Define Statistics according to Prof. Horace Secrist.
12. Write down any two methods of collection of primary data.
13. Mention any two methods of sampling.
14. Draw a general form of Statistical table.
15. What is simple bar diagram.
16. Define skewness and kurtosis.
17. Calculate Harmonic mean for 08, 10, 20.
18. Write down two properties of correlation co-efficient.
19. If $b_{xy} = 0.4$ and $b_{yx} = 0.9$ find 'r'.
20. Define conditional probability.
21. If $E(x) = 4$ and $V(x) = 9$. Find $E(x^2)$.
22. What is the difference between correlation and association of attributes.

Part - C

III. Answer any eight questions:

8 X 5 = 40

23. Explain stratified sampling.
24. Distinguish between questionnaire and schedule.
25. Construct a frequency distribution by taking the class interval 0-5, 5-10, 10-15 etc. for the data given below
19 16 22 09 22 12 39 19 14 23
06 24 16 18 07 17 20 25 28 18
10 24 20 21 10 07 18 28 24 20
14 24 25 34 22 33 26 26 29 13
36 11 26 04 26 37 30 13 08 15
26. Draw a multiple bar diagram form the data given below.

Year	Sales (Rs. (1000))	Gross Profit (Rs. 1000)	Net Profit (Rs. 500)
2004	120	40	20
2005	135	45	30
2006	140	50	30

27. Calculate median for the data given below.

Wages (in Rs.)	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No. of Workers	05	12	15	20	18	10	06	04

28. Find the geometric mean for the data given below.

X :	05	10	15	20	25
F :	3	2	8	6	1

29. Calculate Yule's co-efficient of Association and comment.

	A	α
B	40	60
β	20	80

30. Eight students are ranked in sports and studies as follows. Find the co-efficient of Rank correlation and comment.

Students :	1	2	3	4	5	6	7	8
Rank in Sports :	1	2	3	4	5	6	7	8
Rank in Studies :	6	8	7	5	4	1	2	3

31. The following data relates to the age of husbands and wives.

	Husband	Wives
Mean age (Years)	26	22
Variance age	09	04

Co-efficient of correlation : $r = 0.9$

Estimate the age of wives whose husband's age is 30 years.

32. A box contains 4 red, 5 green and 2-yellow marbles. Three marbles are randomly drawn from the box, what is the probability that they are of
(i) Same colour (ii) Different colours.

33. For the following probability distribution find (i) K (ii) E (X) (iii) S.D (X).

X :	-2	0	1	2
P (X) :	0.2	0.4	K	0.1

34. Using binomial expansion method, interpolate the index number for the year 2010 for the following data.

Year	2006	2007	2008	2009	2010
Index Number	100	107	12	157	?

Part - D

IV. Answer any two questions:

2 X 10 = 20

35. Following are the marks scored by two students in a Class Test. Find who is more consistent student in scoring marks .

X :	25	29	35	39	49	33
Y :	28	023	32	040	49	50

36. Calculate Karl Pearson's co-efficient of skewness for the data given below:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	03	07	10	20	12	06	02

37. Calculate Karl Pearson's correlation co-efficient for the data given below.

x/y	20-29	30-39	40-49	50-59
10-14	10	10	-	-
14-18	-	20	08	-
18-22	-	10	25	06
22-26	-	-	07	04

38. For the following bivariate probability distribution, find co-efficient of correlation.

x/y	5	10	Total
0	0.1	0.2	0.3
1	0.2	0.4	0.6
2	0.1	0	0.1
Total	0.4	0.6	1.0

Part - E

V. Answer any two questions:

2 X 5 = 10

39. Draw a Histogram and locate mode for the data given below.

Wages (in Rs.)	200-250	250-300	300-350	350-400	400-450	450-500	500-550	550-600
No. of workers	06	09	10	12	18	10	04	01

40. Find the missing frequency for the data given below if Mean = 28.

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of students	12	18	27	-	17	06

41. Calculate combined mean and combined standard deviation for the data given below.

	X	Y
Mean	60	50
Number	150	250
Standard-Deviation	06	08

42. In a bivariate data regression line x on y is $4x - 2y + 8 = 0$ and y on x is $2x - 2y + 2 = 0$. Find 'r' and comment.
